Section I: (Amendments to the Specification)

Please amend the specification as set out below.

1. Please replace original paragraphs [0075] through [0077] of the specification with the following new replacement paragraphs [0075] through [0077]:

[0075] The interstices between the microtubular elements **36** at their shell sides are filled with a sorbent material **38** having sorptive affinity for the target gas for sorptively carrying the same. Such sorbent material **38** is limited only to the body portion **32B** of the housing **32**, by the potting member **33**, and the tubular walls and the enclosed ends of the microtubular elements **36**, and therefore will not enter into the headspace [[**32B**]] **32A** in the event that the housing **32** is turned upside down.

[0076] The target gas that is sorptively carried by the sorbent material **38** can diffuse from such sorbent material in the body portion **32B** through the tubular walls of the microtubular elements **36** into the bore sides thereof, as shown in **FIG. 3B**, which can subsequently enter into the headspace [[**32B**]] **32A** and be dispensed from the valve head **34** for downstream usage. The sorbent material **38** is advantageously kept in the body portion **32B** and will not enter into either the bore sides of the microtubular elements **36** or the headspace [[**32B**]] **32A** to block the gas passages, regardless of the direction in which the housing **32** is placed, i.e., either upstanding, upside-down, or reclined.

[0077] Moreover, when the sorbent material **38** is exhausted, it can be recharged with the target gas, by connecting the valve head **34** to a target gas source, and pressure can be applied so as to enhance the speed of such recharging process. The recharged target gas enters into the headspace [[**32B**]] **32A** from the valve head **34**, and then into the bore sides of the microtubular elements **36**. The porous, gas-permeable tubular walls of the microtubular elements **36** provide increased diffusion surface to allow diffusion of the recharged target gas from the bore sides of the microtubular elements 36 into the sorbent material **38** at the shell sides therethrough, as shown in **FIG. 3C**.

2. Please replace original paragraphs [0083] and [0084] with the following new replacement paragraphs [0083] and [0084]:

[0083] The interstices between the microtubular elements **46** at their shell sides in the body portion **42B** are filled with a liquid carrier material **48** that carries the target gas. Such liquid carrier material **48** is limited only to the body portion **42B** of the housing **42**, by the potting member **43**, and the liquid-impermeable tubular walls, and the enclosed ends of the microtubular elements **46**, and therefore will not leak into the headspace [[**42B**]] <u>42A</u> in the event that the housing **42** is turned upside down.

[0084] The target gas that is carried by the liquid carrier material **48** can be released therefrom through the gas-permeable tubular walls of the microtubular elements **46** into the bore sides thereof, as shown in **FIG. 4B**, which can subsequently enter into the headspace [[**42B**]] <u>42A</u> and be dispensed from the valve head **44** for downstream usage. The liquid carrier materials **48**, however, is kept in the body portion **42B** and will not leak into either the bore sides of the microtubular elements **46** or the headspace [[**42B**]] <u>42A</u> regardless of the direction in which the housing **42** is placed.

3. Please replace original paragraphs [0095] and [0096] with the following new replacement paragraphs [0095] and [0096]:

[0095] **FIG. 6A** shows an individual microtubular element as immersed in the liquid hydrogen carrier [[**54**]] <u>53</u>. Such microtubular element comprises a single-layer tubular wall **56'** made of a gas-permeable and liquid-impermeable material, which is preferably a microporous, hydrophobic polymeric material selected from the group consisting of polypropylenes, polyethylenes, polyurethanes, polymethylpentenes, polytetrafluoroethylenes, etc. Hydrogen gas **64** can diffuse through the tubular wall **56'** of such

microtubular element and enter into the bore side thereof, while the liquid hydrogen carrier **53** cannot and therefore is limited only to the shell side thereof.

[0096] **FIG 6B** shows another individual microtubular element as immersed in the liquid hydrogen carrier [[**54**]] **53** which comprises a double-layer tubular wall having an outer layer **56"** made of a structural material that is both gas- and liquid-permeable, and an inner layer **57** made of a membrane material that is gas-permeable but liquid-impermeable.

Please replace original paragraph [0148] with the following new replacement paragraph [0148]:

[0148] The hydrogen carrier material can alternatively be stored at the shell side of the microfibrous fuel cells. **FIG. 17** shows a compact fuel cell assembly [[**260**]] **280** that comprises a bed of hydrogen-sorbent material [[**263**]] **283** and multiple microfibrous fuel cells [[**264**]] **284** dispersed therein. Hydrogen gas is supplied by such bed of hydrogen-sorbent material [[**263**]] **283** at the shell side of each microfibrous fuel cell, while an oxidant, such as oxygen gas or air, can be supplied through a lumen at the bore side of each microfibrous fuel cell.